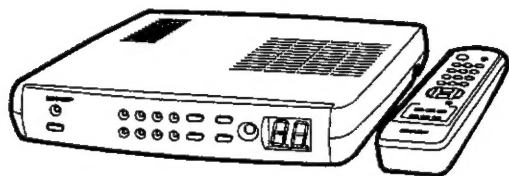


# SHARP SERVICE MANUAL

S59G6TU-M100/

## TV TUNER



## MODEL TU-M100

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

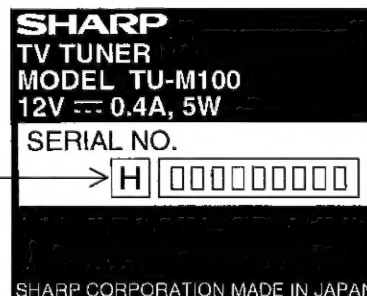
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The supplied accessories (AC Adapter etc.) of this model are different depending on their suffix symbols. Before servicing the units, be sure to check the suffix symbol on the model label that is applied on the bottom side of the unit.

Example of suffix symbol

Suffix symbol →



## 1. IMPORTANT SERVICE SAFETY PRECAUTION

- Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and servicing guidelines which follow:

### WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.

### CAUTION

FOR CONTINUED PROTECTION

AGAINST A RISK OF FIRE REPLACE

ONLY WITH SAME TYPE FUSE. F101 (630mA, 250V) FUSE.

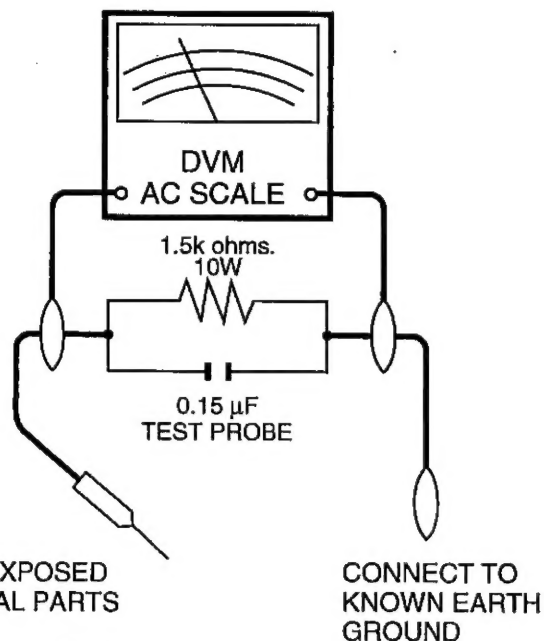
### BEFORE RETURNING THE TUNER (Fire & Shock Hazard)

Before returning the tuner to the user, perform the following safety checks:

1. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the tuner.
2. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for current in the following manner.
  - Plug the AC Adaptor directly into a 100~240 volt AC outlet, and connect the DC power cable into the tuner's DC jack. (Do not use an isolation transformer for this test).
  - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 $\mu$ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.
  - Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
  - Connect the resistor connection to all exposed metal parts having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.

All checks must be repeated with the AC Adaptor plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)

Any reading of 0.3V RMS (this corresponds to 0.2 milliamp. AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.



### SAFETY NOTICE

Many electrical and mechanical parts in TV tuner have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by " $\Delta$ " and shaded areas in the **Replacement Parts Lists** and **Schematic Diagrams**.

For continued protection, replacement parts must be identical to those used in the original circuit.

The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, or other hazards.

## 2. SPECIFICATIONS

Item		Specifications	
Receiving Broadcast Standard		CCIR TV Standard system NTSC-M PAL-B/G, D/K, I, M	
Sound System		CCIR TV Standard M, B/G, D/K, I	
Receiving System and Frequency		AREA	VHF UHF
		US	US2-US13 CH US14-US69 CH
		UK/HONG KONG	E2-E12 CH, ItalyA-H1 CH E21-E69 CH
		CCIR	E2-E12 CH, ItalyA-H1 CH E21-E69 CH
		JAPAN	J1-J12 CH J13-J62
		CHINA	C1-C12 CH C13-C57 CH
		FREE	44.25-423.25 MHz 431.25-863.25 MHz
Power Source		DC 12V	
Power Consumption		5W at DC 12V operation	
Dimensions (approx.)		210 mm (width) x 150 mm (depth) x 30 mm (height) (8-17/64 x 50-29/32 x 1-3/16 (inch))	
Weight (approx.)		460 g	
Terminals		Antenna Input	VHF/UHF 75 $\Omega$ unbalanced
		Antenna Output	VHF/UHF 75 $\Omega$ unbalanced
		Video Output	75 $\Omega$ 1 Vpp unbalanced
		Audio Output	1 k $\Omega$ 0.5 Vrms unbalanced
		DC Input	EIAJ type IV, DC 12V
		Remote Input	$\phi$ 3.5 Mini-jack
Power Supply (AC-adaptor)		Input	AC 110-240V 50/60 Hz Auto-wide type
		Output	DC 12V 0.4A
Supplied Accessories		AC Adapter (with AC plug), Antenna Adapter (in x 1/out x 1), Remote Control, Batteries for remote control, AV Cable, Operation Manual	

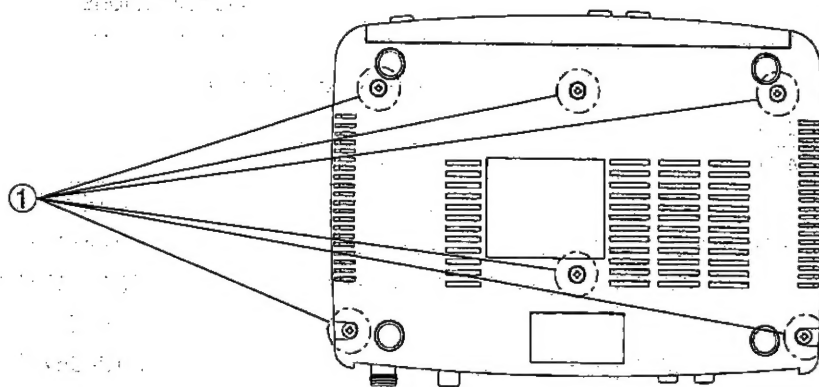
- Design and specifications are subject to change without notice.

- Receivable channels:

Examples of receivable channels are shown above.

### 3. DISASSEMBLY OF THE SET

- ① Remove 6 screws ① of main bottom case (lower side).

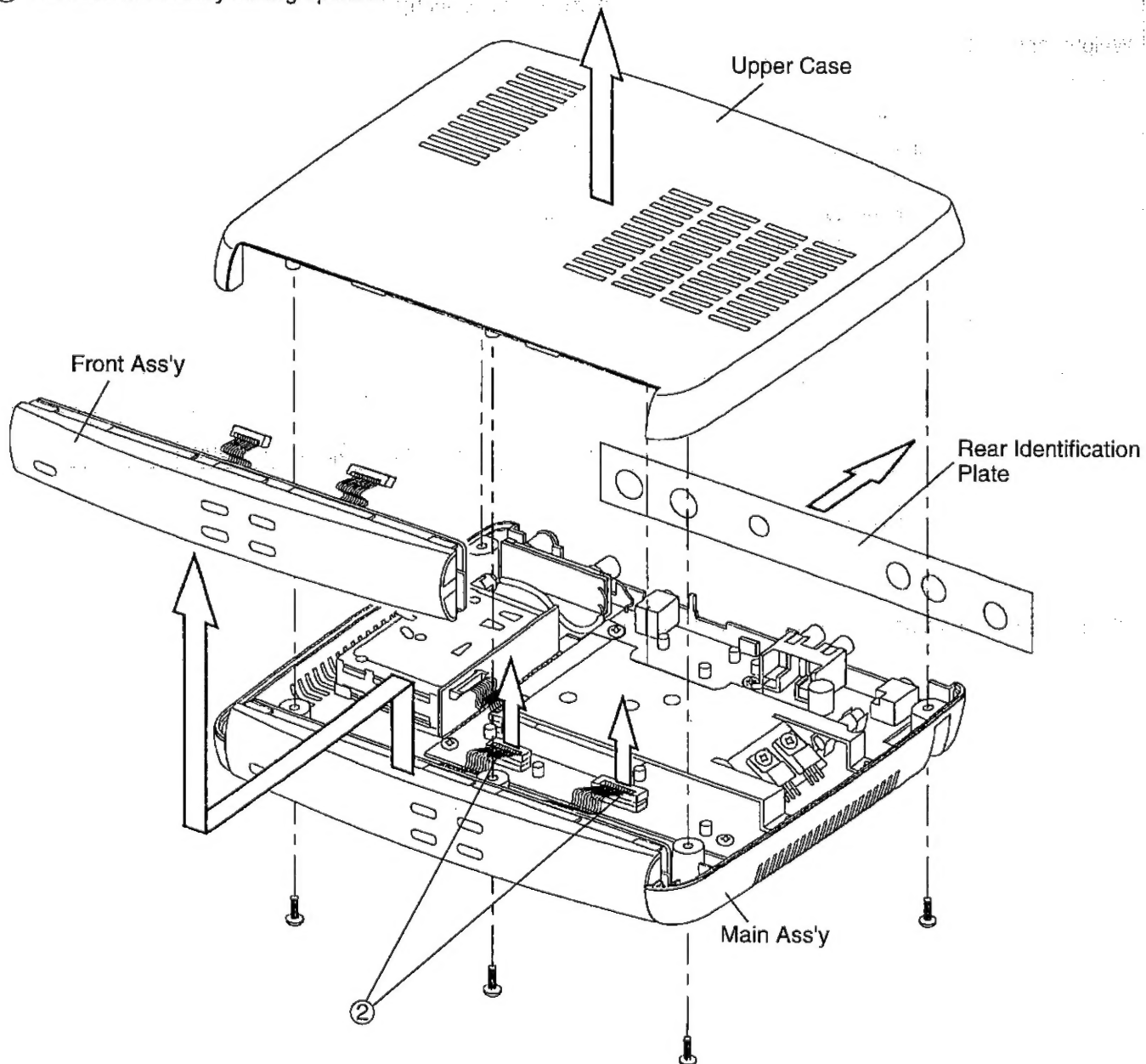


- ② Remove the upper case and remove rear identification plate in same time.

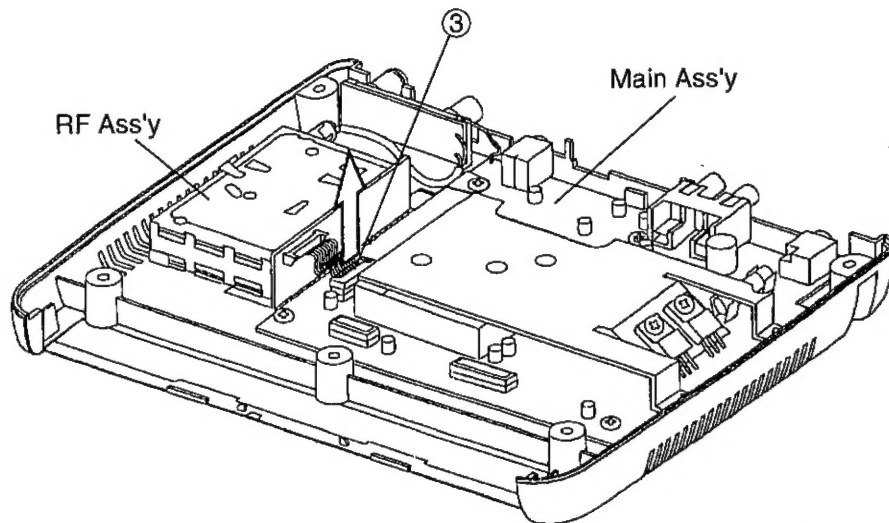
\* Rear identification plate is stuck with both face tape. Remove it stripping slowly.

- ③ Pull out 2 cables ② coming out from front ass'y from connectors of main ass'y.

- ④ Remove front ass'y sliding upward.

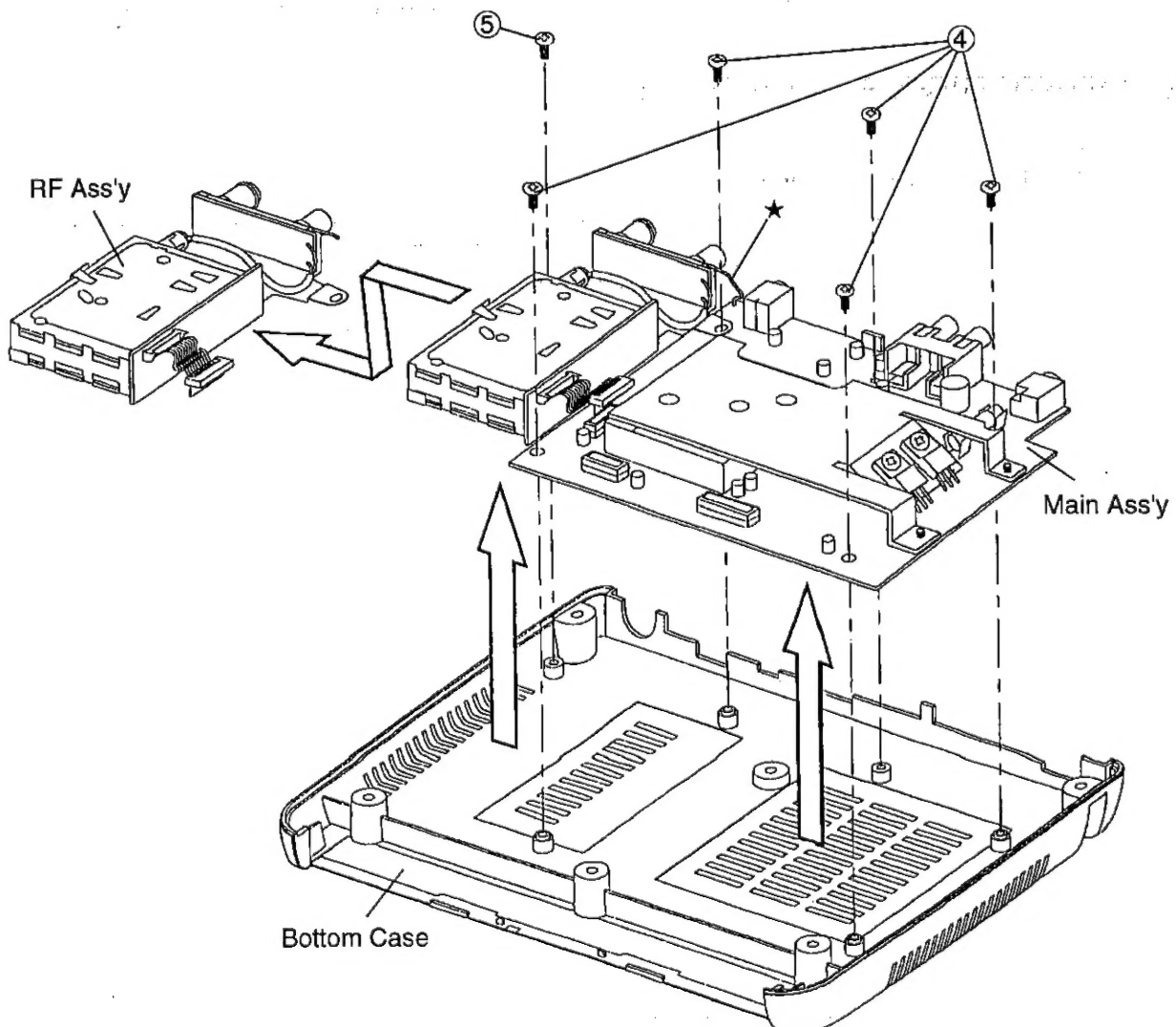


- ⑤ Pull out 1 cable ③ coming out from RF ass'y from connectors of main ass'y.



- ⑥ Remove 5 screws ④ fixing main ass'y and 1 screw ⑤ fixing RF ass'y, and remove main ass'y and RF ass'y together not to damage the point of ★ mark.

\* When you must separate main ass'y and RF ass'y, cut the part of the ★ mark.



## 4. ADJUSTMENT PROCEDURE

### 1. Wave detection coil adjustment (TR102)

SG conditions: Input frequency 43.25 MHz  
 Input level 80 dBu  
 Modulation signal 10-step step wave, B/G, PAL signal

Adjustment method: Set TR101 to the best position, monitoring DG/DP on a video analyzer.

### 2. AGC adjust (VR101)

SG conditions: Input frequency 43.25 MHz  
 Input level 80 dBu  
 Modulation signal White 0%, B/G, PAL signal

Adjustment method: Adjust VR101 roughly so as to get 44 dB, monitoring S/N on a video analyzer, and check the voltage of TP1 ( $3.8 \pm 0.2V$ ).

If TP1 is out of standard, readjust the voltage, monitoring it, and check that S/N is 42 dB or more.

### 3. AFT adjust (TR101)

SG conditions: Input frequency 43.25 MHz  
 Input level 80 dBu  
 Modulation signal Color pattern, B/G, PAL signal

Adjustment method: Adjust the voltage of TR101 coil so as to get  $4.2 \pm 0.2V$ , monitoring TP1 voltage on a tester etc.

### 4. OSD dot clock adjustment

Adjustment condition: To be performed in the state where OSD is output.

Adjustment method: Adjust TC101, monitoring TP4 on a counter.

Adjust it to 7 MHz roughly, and then set it to the best position on a TV screen.

## 5. SOLID STATE DEVICE BASE DIAGRAM

IC101 M38024M6-361FP

### INTEGRATED CIRCUIT TERMINAL FUNCTION

Pin No	Terminal name	I/O	Function
1	PST	I	State of power revert after reset H: Revert to state before reset (usually setup level) L: Standby mode
2	AGC	I	AGC voltage input (no use)
3	AFT	I	AFT voltage input
4	V_SYNC	I	Vertical sync signal input
5	V_MUTE	O	Video mute (Active H)
6	A_MUTE	O	Audio mute (Active L)
7	H_SYNC	I	Horizontal sync signal input
8	OXTAL	O	Ocsillation switch for OSD (L: 3.58 H: 4.43)
9	OEN	O	OSD IC enable (Active L)
10	OCLK	O	OSD IC clock
11	ODATA	O	OSD IC data
12	EMP	O	DE_EMP switch (system "M": L others: H)
13	SSW3	O	Mode SW    SSW1   SSW2   SSW3   System H       L       L:       M L       L       H:       D/K L       H       L:       I L       L       L:       B/G
14	SSW2	O	
15	SSW1	O	

Pin No	Terminal name	I/O	Function
16	IFSW	O	IF SAW switch (system "M" : L others : H)
17	NC	—	
18	CNVSS	—	VSS connecter
19	RESET	—	Microcomputer reset input
20	REMOTE	—	Remote control input
21	NC	—	
22	XIN	—	Clock input
23	XOUT	—	Clock output
24	VSS	—	GND
25	NC	—	
26	NC	—	
27	NC	—	
28	NC	—	
29	NC	—	
30	NC	—	
31	RSCL	O	RF unit I <sup>2</sup> C clock
32	RSDA	I/O	RF unit I <sup>2</sup> C data
33	NC	—	
34	NC	—	
35	PLED ON	O	Power LED (green)
36	PLED OFF	O	Stand by LED (red)
37	DIG3	O	Front status (area, system) display common
38	DIG2	O	Front key input common
39	DIG1	O	Front seven segments two figures common
40	DIG0	O	Front seven segments one figure common
41	SEG7	O	Front display segment
42	SEG6	O	Front display segment
43	SEG5	O	Front display segment
44	SEG4	O	Front display segment
45	SEG3	O	Front display segment
46	SEG2	O	Front display segment
47	SEG1	O	Front display segment
48	SEG0	O	Front display segment
49	KEY4	I	Key input (power)
50	KEY3	I	Key input ( ▲ )
51	KEY2	I	Key input ( ▼ )
52	KEY1	I	Key input (preset)
53	KEY0	I	Key input (system)
54	NC	—	

Pin No	Terminal name	I/O	Function
55	NC	—	
56	NC	—	
57	VCC	—	Power
58	VREF	—	AD standard voltage
59	AVSS	—	Analog power
60	POWER	O	Power control
61	EDI	I	Data output to E <sup>2</sup> PROM
62	EDO	O	Data input to E <sup>2</sup> PROM
63	ESK	O	E <sup>2</sup> PROM clock
64	ECS	O	E <sup>2</sup> PROM chip select (Active H)

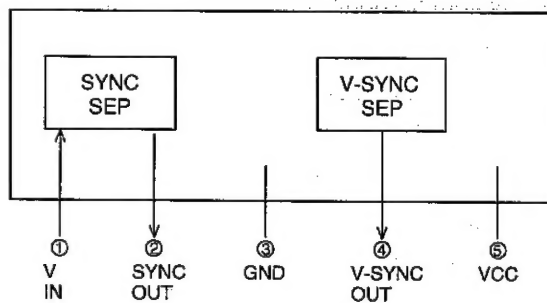
**IC102 AK93C75AV****INTEGRATED CIRCUIT TERMINAL FUNCTION**

Pin No	Terminal name	I/O	Function
1	CS	I	Chip select
2	SK	I	Serial clock input
3	DI	I	Serial data input
4	DO	O	Serial data output
5	GND	—	GND
6	NC	—	
7	NC	—	
8	VCC	I	Power

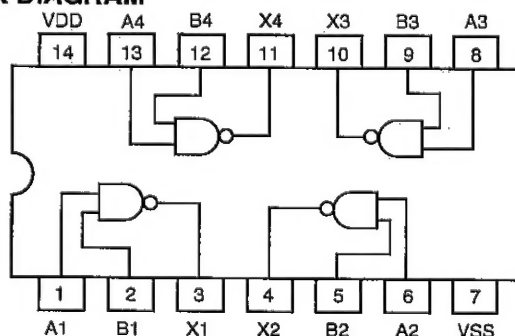
**IC103 BA7357S****INTEGRATED CIRCUIT TERMINAL FUNCTION**

Pin No	Terminal name	I/O	Function
1	AFTOUT	O	AFT output
2	RFAGC	O	RF-AGC output
3	AGCADJ	—	Adjustment of RFAGC delay point
4	AGCFLT	—	IFAGC filter
5	GND1	—	GND for VIF, AGC, AFT
6	VIFB	I	Video IF input
7	VIFA	I	Video IF input
8	GND2	—	GND for SIF, PLL
9	SIF	I	Audio IF input
10	AFC	—	Filter for audio inspection of waveform
11	VO4.5M	—	2NDSIF output
12	IR	—	Filter bias resistor (within $\pm 1\%$ )
13	AFOUT	O	AUDIO output

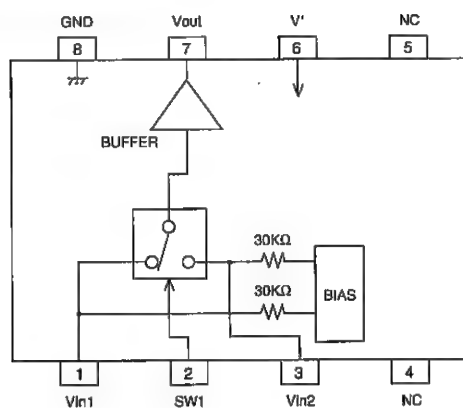


**IC104 LA7213**  
**INTEGRATED CIRCUIT BLOCK DIAGRAM**

**IC105 M35017-001FP**  
**INTEGRATED CIRCUIT TERMINAL FUNCTION**

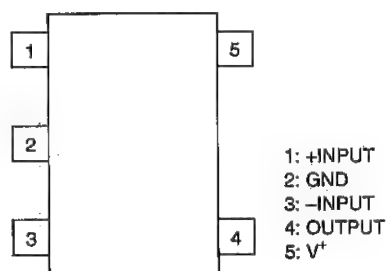
Pin No	Terminal name	I/O	Function
1	OSC1	I	Oscillate circuit for attach outside
2	OSC2	O	
3	CS	I	Chip select input
4	SCK	I	Serial clock input
5	SIN	I	Serial data input
6	AC	I	Auto clear input
7	VDD2	—	Power
8	CVIDEO	O	Compound video signal output
9	LECHA	I	Character level input
10	CVIN	I	Compound video signal input
11	VSS	—	GND
12	P0	O	General-purpose output
13	P1	O	General-purpose output
14	P2	O	General-purpose output
15	P3	O	General-purpose output
16	LP	O	Filter connector
17	OSCIN	I	Sub carrier input for sync signal occurrence NTSC : 3.58MHz PAL : 4.43MHz
18	HOR	I	Horizontal sync signal input
19	VERT	I	Vertical sync signal input
20	VDD1	—	Power

**IC106 TC4011BF**  
**INTEGRATED CIRCUIT BLOCK DIAGRAM**


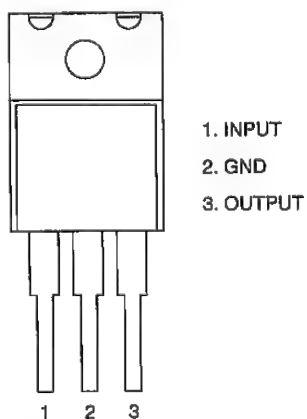
**IC107 NJM2533M**  
**INTEGRATED CIRCUIT BLOCK DIAGRAM**



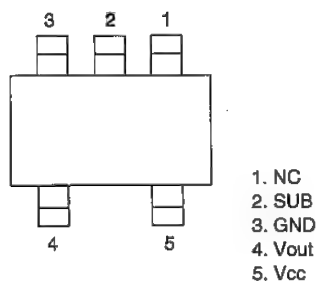
**IC108 NJM2125F**  
**INTEGRATED CIRCUIT BLOCK DIAGRAM**



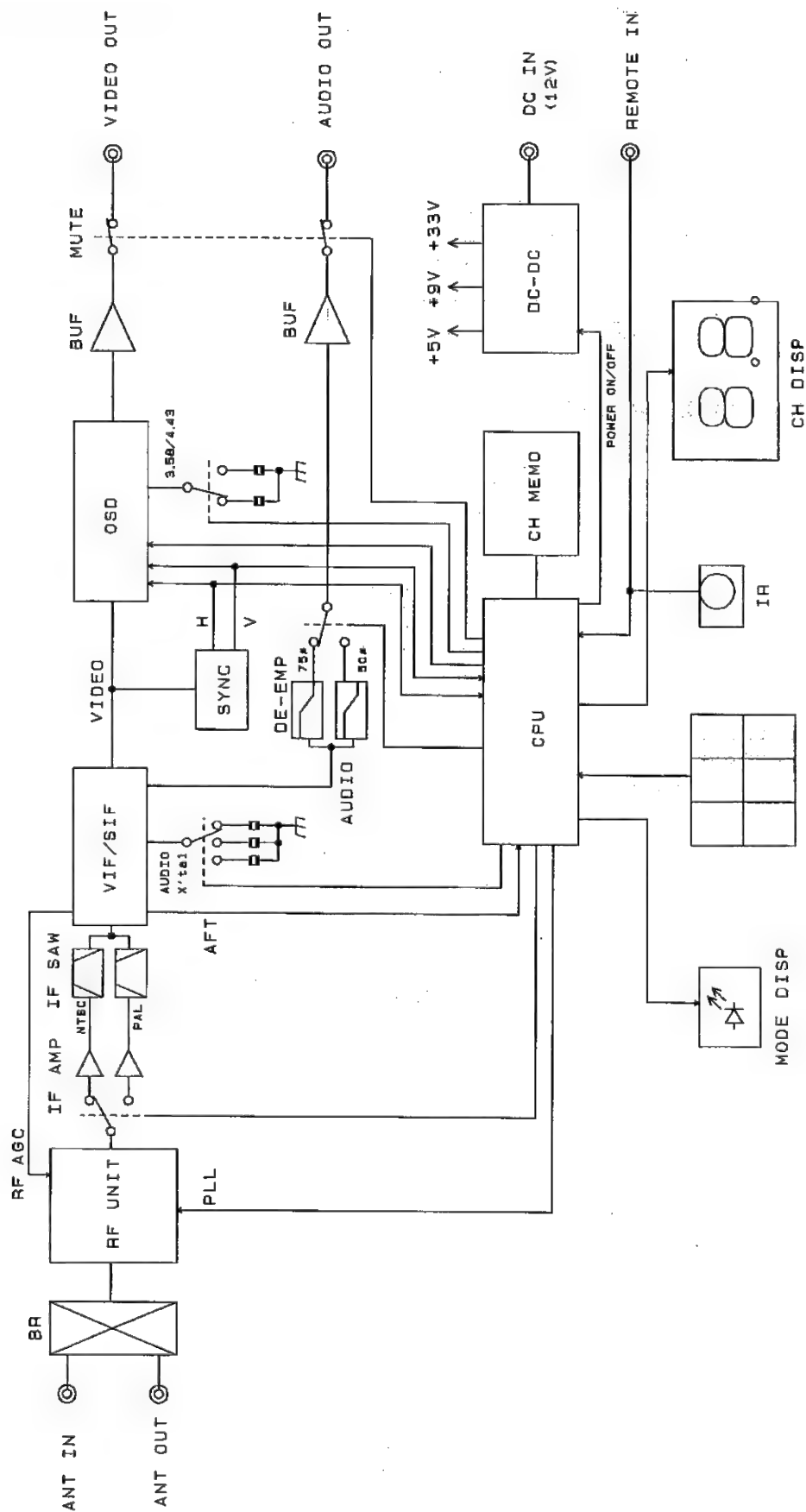
**IC109 NJM78M09FA(9VReg)**  
**IC110 NJM78M05FA(5VReg)**  
**INTEGRATED CIRCUIT BLOCK DIAGRAM**



**IC111 PST9143NR**  
**INTEGRATED CIRCUIT BLOCK DIAGRAM**



## 6. BLOCK DIAGRAM



## 7. SCHEMATIC DIAGRAM

### • DESCRIPTION OF SCHEMATIC DIAGRAM

1. When the exclusive-use AC adapter is used, the color bar signal of color bar generator for service is input to get the normal screen. When the audio is minimized, the voltage value is measured with the 20 k $\Omega$ /V tester.
2. When the exclusive-use AC adapter is used, the color density, lightness and color hue are set to the center position, and the signal of color bar generator for service is observed to get waveform. The waveform test point is indicated with the mark (○) in the wiring diagram.

#### 3. Indication of resistors and capacitors

[Resistor]

Unit: Nonindication ...  $\Omega$ , K ... k $\Omega$ ,  
M ... M $\Omega$

Error: Nonindication ...  $\pm 10\%$   
J ...  $\pm 5\%$   
F ...  $\pm 1\%$   
D ...  $\pm 0.5\%$

[Capacitor]

Unit: Nonindication or  $\mu$  ...  $\mu$ F,  
P or p ... pF

#### IMPORTANT SAFETY NOTICE:

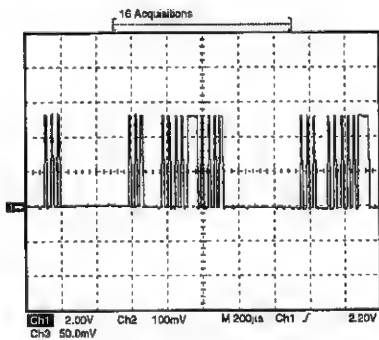
PARTS MARKED WITH "  $\Delta$  " (  ) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET.

BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

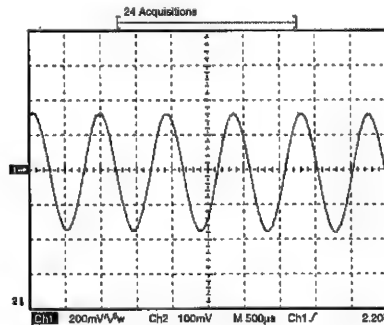
#### CAUTION:

This circuit diagram is original one, therefore there may be a slight difference from yours.

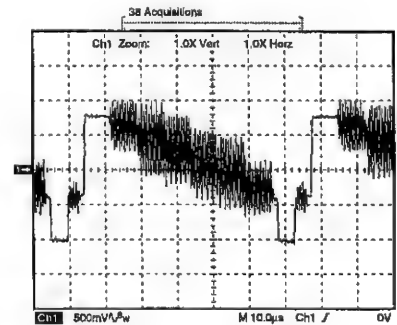
### • WAVEFORMS



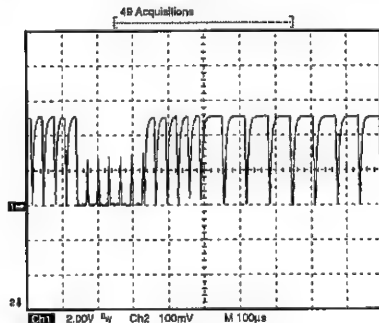
CN102 3 Pin



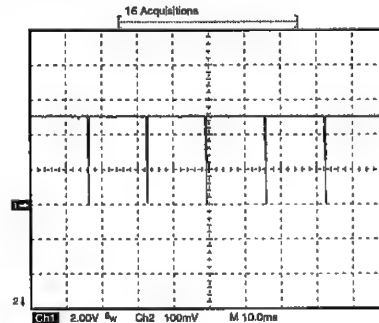
IC103 13 Pin



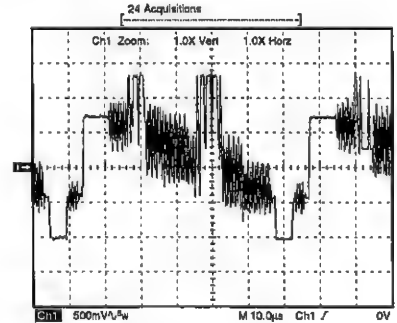
IC103 21 Pin



IC104 2 Pin



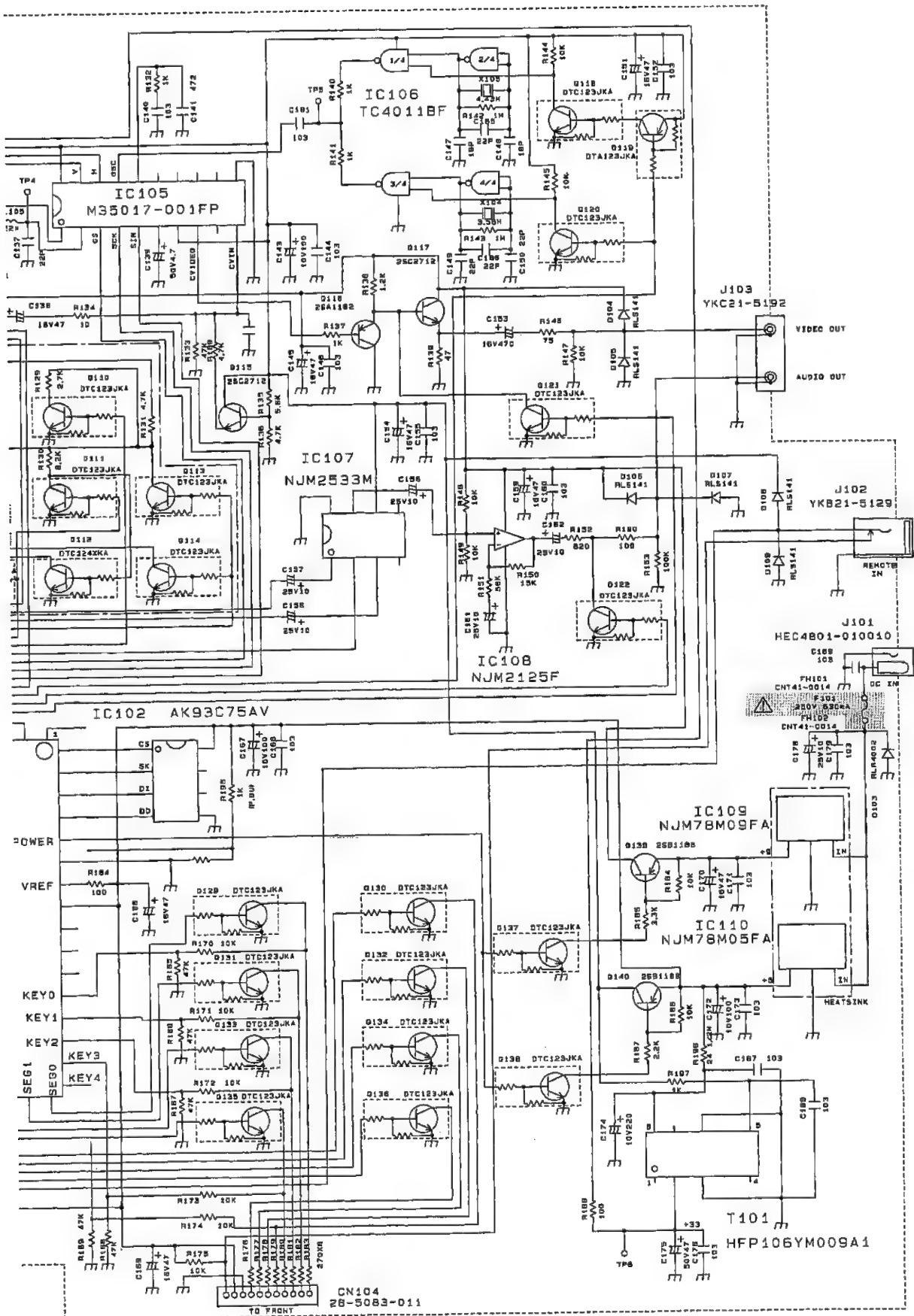
IC104 4 Pin



IC105 8 Pin

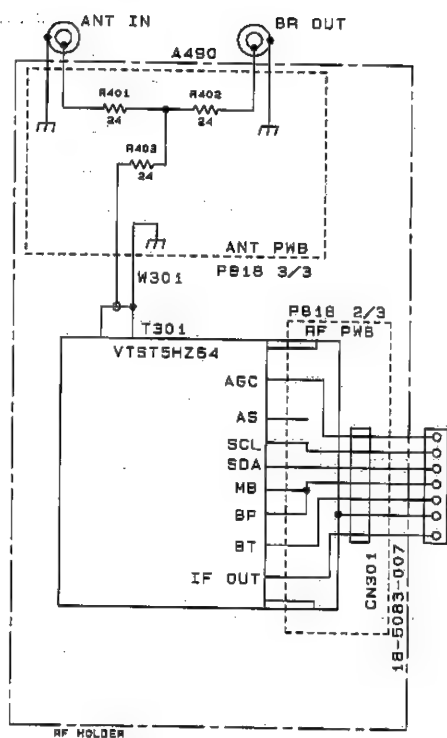


The parts which have no Ref No. in the schematic diagram are not in use.

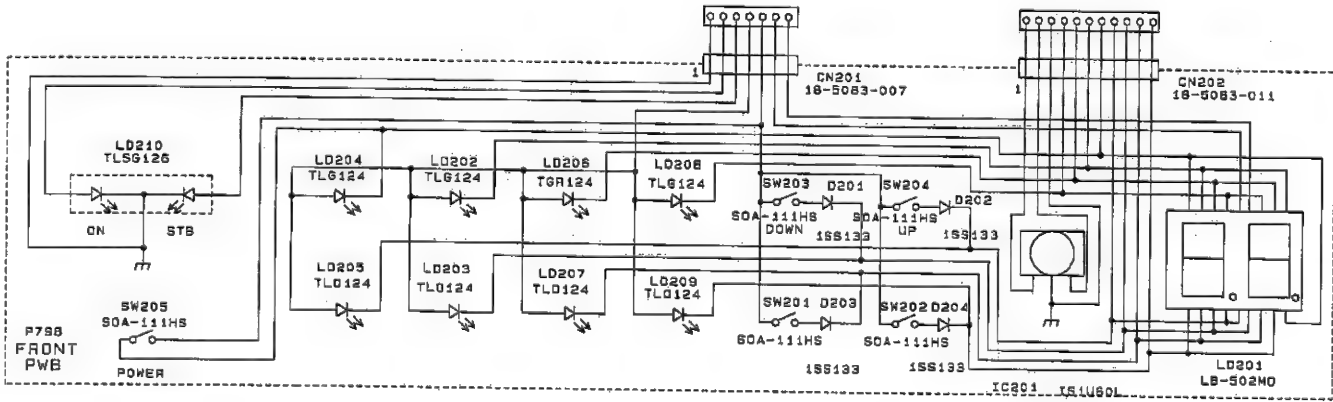


10	11	12	13	14	15	16	17	18	19
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RF CIRCUIT/ANT CIRCUIT

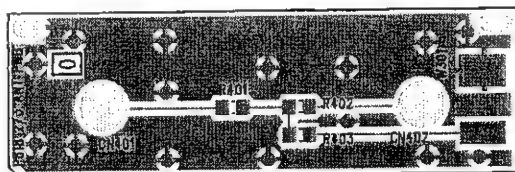


FRONT CIRCUIT

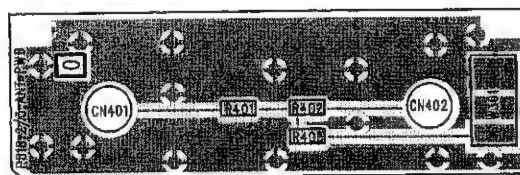


## 8. PRINTED WIRING BOARD ASSEMBLIES

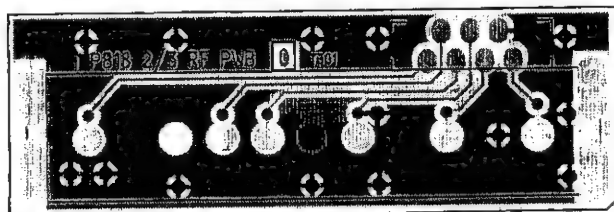
ANT PWB  
PART SIDE



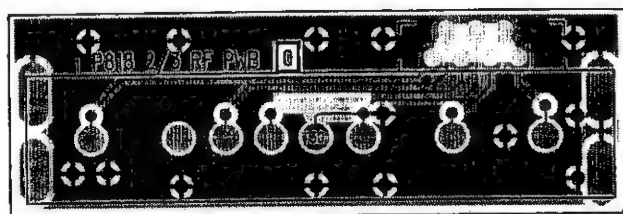
SOLDER SIDE



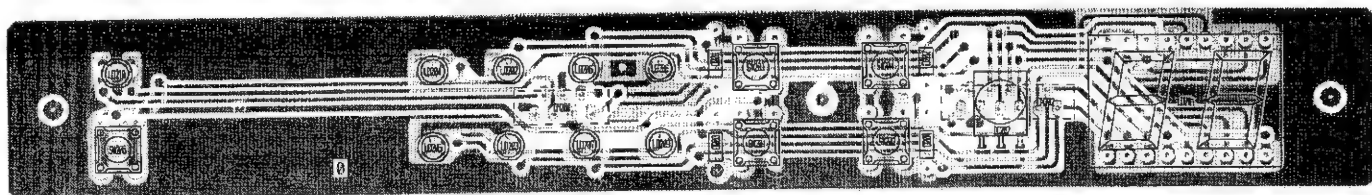
RF PWB  
PART SIDE



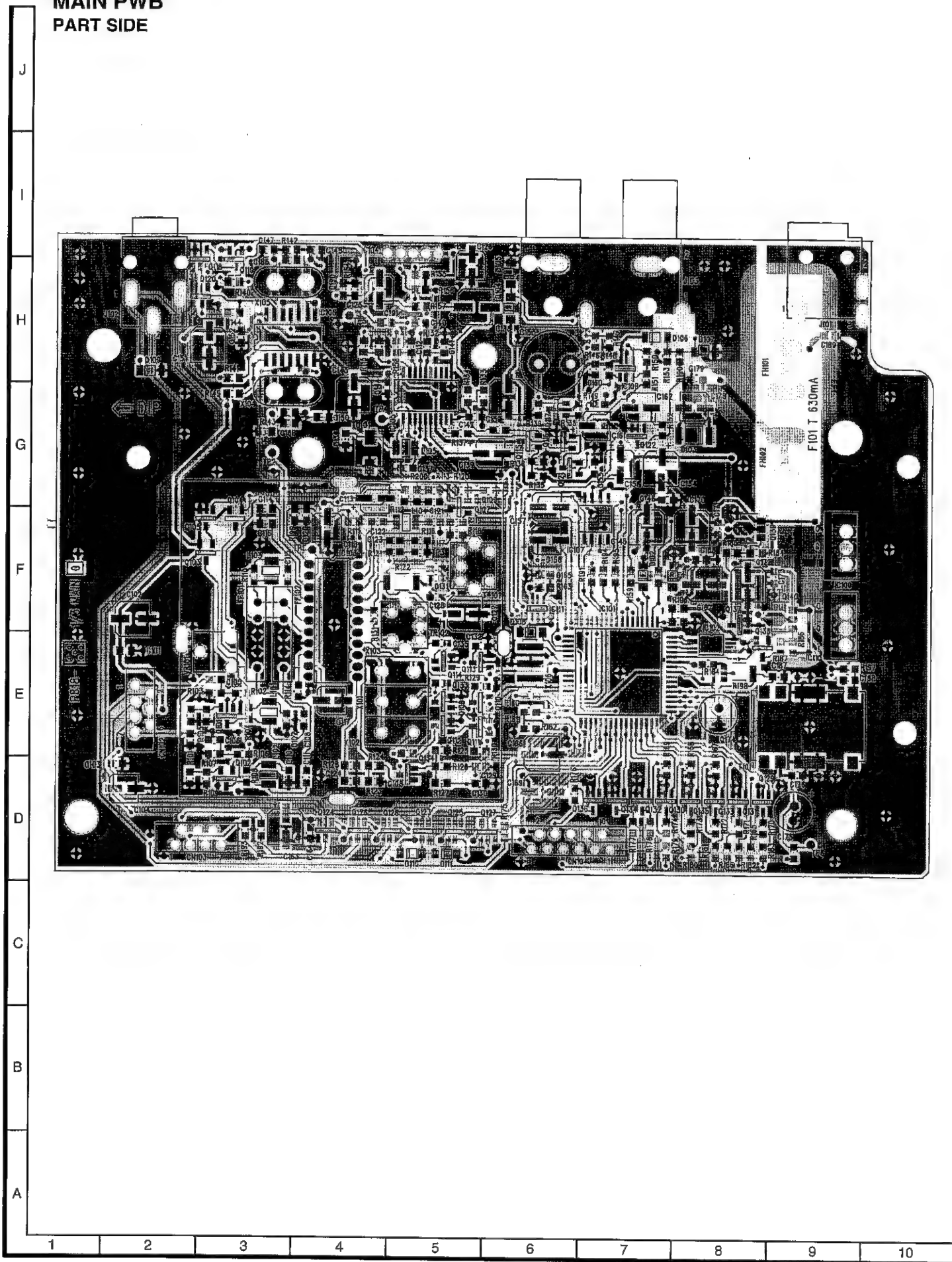
SOLDER SIDE

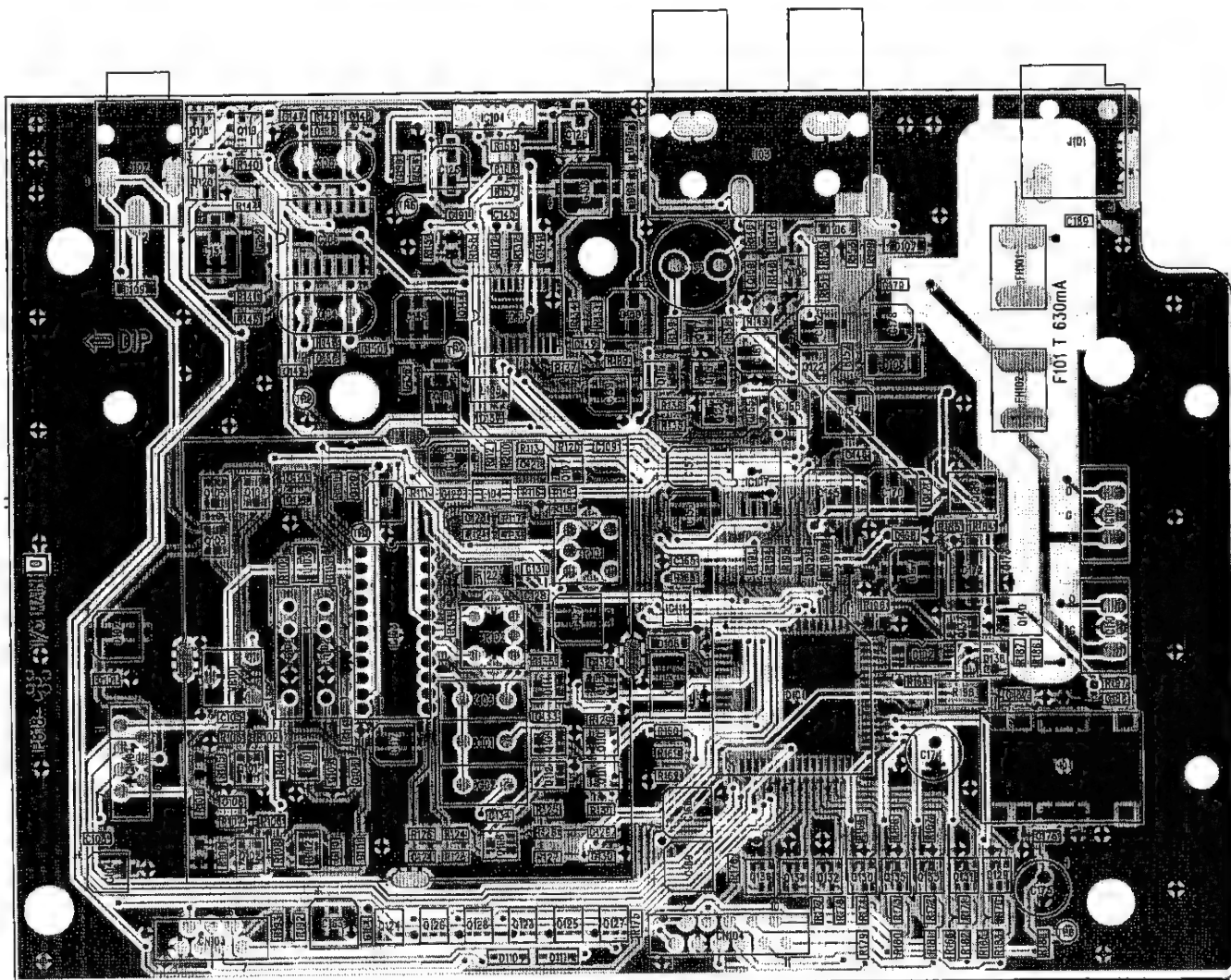


FRONT PWB



MAIN PWB  
PART SIDE



**SOLDER SIDE**

**- M E M O -**

## 9. REPLACEMENT PARTS LIST

### PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "△" and shaded area in the Replacement Parts Lists and schematic diagram. The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

### "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER      2. REF. NO.  
3. PART NO.            4. DESCRIPTION

### MARK★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code
----------	----------	---	-------------	------

### PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

P101	9GH8A2070	-	Main Unit	—
P201	9GH8A2073	-	Front Unit	—
P301	9GH8A2071	-	RF Unit	—
P401	9GH8A2072	-	ANT Unit	—

### 9GH8A2070 MAIN UNIT(P101)

#### INTEGRATED CIRCUITS

IC101	9GHTY8MAT40	J	M38024M6-361FP, CPU	AY
IC102	9GHTIAK93C75AV	J	AK93C75AV, E <sup>2</sup> PROM	AQ
IC103	VHIBA7357S-1	J	BA7357S, VIF/SIF	AR
IC104	VHILA7213/-1	J	LA7213, SYNC SEP.	AE
IC105	9GHTIM35017FP	J	M35017-001FP, OSG	AS
IC106	VHITC4011BF-1	J	TC4011BF, NAND	AE
IC107	VHINJM2533M-1	J	NJM2533M, VIDEO SW	AF
IC108	9GHTINJM2125F	J	NJM2125F, OPAMP	AF
IC109	9GHTINJM78M09F	J	NJM78M09FA, 9VReg	AG
IC110	9GHTINJM78M05F	J	NJM78M05FA, 5VReg	AG
IC111	9GHTIPST9143NR	J	PST9143NR, RESET IC	AG

#### TRANSISTORS

Q101	9GHTC2714Y	J	TC2714Y	AF
Q102	VS2SC2714Y/1F	J	TC2714Y	AF
Q103	9GHTIDTA123JKA	J	DTA123JKA	AF
Q104	9GHTIDTA123JKA	J	DTA123JKA	AF
Q105	VSDTC123JKA-1	J	DTC123JKA	AF
Q107	VS2SC2712GR-1	J	TC2712GR	AA
Q108	VS2SC2712GR-1	J	TC2712GR	AA
Q109	VSDTC123JKA-1	J	DTC123JKA	AF
Q110	VSDTC123JKA-1	J	DTC123JKA	AF
Q111	VSDTC123JKA-1	J	DTC123JKA	AF
Q112	9GHTIDTC124XKA	J	DTC124XKA	AF
Q113	VSDTC123JKA-1	J	DTC123JKA	AF
Q114	VSDTC123JKA-1	J	DTC123JKA	AF
Q115	VS2SC2712GR-1	J	TC2712GR	AA
Q116	9GHTA1162GR	J	TA1162GR	AF
Q117	VS2SC2712GR-1	J	TC2712GR	AA
Q118	VSDTC123JKA-1	J	DTC123JKA	AF
Q119	9GHTIDTA123JKA	J	DTA123JKA	AF
Q120	VSDTC123JKA-1	J	DTC123JKA	AF
Q121	VSDTC123JKA-1	J	DTC123JKA	AF
Q122	VSDTC123JKA-1	J	DTC123JKA	AF
Q123	9GHTIDTA123JKA	J	DTA123JKA	AF
Q124	9GHTIDTA123JKA	J	DTA123JKA	AF
Q125	9GHTIDTA123JKA	J	DTA123JKA	AF

Ref. No.	Part No.	★	Description	Code
Q126	9GHTIDTA123JKA	J	DTA123JKA	AF
Q127	9GHTIDTA123JKA	J	DTA123JKA	AF
Q128	9GHTIDTA123JKA	J	DTA123JKA	AF
Q129	VSDTC123JKA-1	J	DTC123JKA	AF
Q130	VSDTC123JKA-1	J	DTC123JKA	AF
Q131	VSDTC123JKA-1	J	DTC123JKA	AF
Q132	VSDTC123JKA-1	J	DTC123JKA	AF
Q133	VSDTC123JKA-1	J	DTC123JKA	AF
Q134	VSDTC123JKA-1	J	DTC123JKA	AF
Q135	VSDTC123JKA-1	J	DTC123JKA	AF
Q136	VSDTC123JKA-1	J	DTC123JKA	AF
Q137	VSDTC123JKA-1	J	DTC123JKA	AF
Q138	VSDTC123JKA-1	J	DTC123JKA	AF
Q139	9GHTB1188Q	J	TB1188Q	AF
Q140	9GHTB1188Q	J	TB1188Q	AF

#### DIODES

D103	9GHTORLR4002	J	RLR4002, 0.8 Diode	AF
D104	9GHTORLS141	J	RLS141 SW Diode	AF
D105	VHDRLS141/-1	J	RLS141 SW Diode	AF
D106	VHDRLS141/-1	J	RLS141 SW Diode	AF
D107	VHDRLS141/-1	J	RLS141 SW Diode	AF
D108	VHDRLS141/-1	J	RLS141 SW Diode	AF
D109	VHDRLS141/-1	J	RLS141 SW Diode	AF
D110	VHDRLS141/-1	J	RLS141 SW Diode	AF
D111	VHDRLS141/-1	J	RLS141 SW Diode	AF

#### CRYSTALS

X101	RFILA0093CEZZ	J	CSA6.5MTZ 6.5MHz	AC
X102	RFILA0042CEZZ	J	CSA6.5MG 6.0MHz	AD
X103	RFILC0081GEZZ	J	CSA5.0MG 5.0MHz	AD
X104	9GHFO309	J	AT-51/ 3.579545MHz	AK
X105	9GHFO310	J	AT-51/ 4.433619MHz	AK
X106	9GHF0294	J	CSTCC4.00MG0H6	AG

#### COILS

L101	9GHLD467	J	NL252018-2R2J 2.2u	AF
L102	VPARM2R2MR54N	J	NL252018-2R2J 2.2u	AF
L104	9GHLD602	J	NL252018-390J 39u	AF
L105	VPARM330K4R3N	J	NL252018-220J 22u	AC
TC101	9GHCV039	J	4CRJA030E11 30P	AH
TR101	9GHLD1080	J	0236JSP-121 AFT Coil	AH
TR102	9GHLD1081	J	0236JSP-136 Coil	AH

#### VARIABLE RESISTOR

VR101	9GHRV084	J	RH0615CJ4J, 22kB EVND	AF
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#### CAPASITORS

C101	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C102	9GHCDPE71071AC	J	100 10V Electrolytic	AF
C103	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C104	VCEAPF1HW475M	J	4.7 50V Electrolytic	AB
C105	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C106	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C107	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C108	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C109	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C110	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C111	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C112	VCKYTV1HB102K	J	1000p 50V Ceramic	AA
C113	VCEAPF1EW106M	J	10 25V Electrolytic	AB
C114	VCKYTV1HB472K	J	4700p 50V Ceramic	AA
C115	VCKYTV1HB472K	J	4700p 50V Ceramic	AA
C116	VCKYTV1EB104K	J	0.1 25V Ceramic	AB
C117	VCEAPF1HW475M	J	4.7 50V Electrolytic	AB
C118	VCEAPF1CW226M	J	22 16V Electrolytic	AB
C120	VCKYTV1HB472K	J	4700p 50V Ceramic	AA
C121	VCKYTV1EB223K	J	0.022 25V Ceramic	AB
C122	VCCCTV1HH150J	J	15p 50V Ceramic	AA
C123	9GHCCPF46841CX	J	0.68 25V Ceramic	AF
C124	VCKYTV1EB104K	J	0.1 25V Ceramic	AB
C125	VCEAPF1HW475M	J	4.7 50V Electrolytic	AB
C126	VCEAPF1EW106M	J	10 25V Electrolytic	AB
C127	VCEAPF1CW476M	J	47 16V Electrolytic	AC
C128	VCCCTV1HH330J	J	33p 50V CH	AA
C129	VCKYTV1HB103K	J	0.01 50V Ceramic	AA
C130	VCKYTV1HB103K	J	0.015 50V Ceramic	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
C131	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R126	VRS-TV1JD682J	J 6.8k	1/10W CH	AA
C132	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R127	VRS-TV1JD332J	J 3.3k	1/10W CH	AA
C133	VCCCTV1HH180J	J 18p	50V CH	AA	R128	VRS-TV1JD243F	J 24k	1/10W CH	AA
C134	VCCCTV1HH180J	J 18p	50V CH	AA	R129	VRS-TV1JD272J	J 2.7k	1/10W CH	AA
C135	VCCCTV1HH220J	J 22p	50V CH	AA	R130	VRS-TV1JD822J	J 8.2k	1/10W CH	AA
C136	VCCCTV1HH100D	J 10p	50V CH	AA	R131	VRS-TV1JD472J	J 4.7k	1/10W CH	AA
C137	VCCCTV1HH220J	J 22p	50V CH	AA	R132	VRS-TV1JD102J	J 1k	1/10W CH	AA
C138	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R133	VRS-TV1JD473J	J 47k	1/10W CH	AA
C139	VCEAPF1HW475M	J 4.7	50V Electrolytic	AB	R134	VRS-TV1JD100J	J 10	1/10W CH	AA
C140	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R135	VRS-TV1JD562J	J 5.6k	1/10W CH	AA
C141	VCKYTV1HB472K	J 4700p	50V Ceramic	AA	R136	VRS-TV1JD472J	J 4.7k	1/10W CH	AA
C143	9GHCDPE71071AC	J 100	10V Electrolytic	AF	R137	VRS-TV1JD102J	J 1k	1/10W CH	AA
C144	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R138	VRS-TV1JD122J	J 1.2k	1/10W CH	AA
C145	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R139	VRS-TV1JD470J	J 47	1/10W CH	AA
C146	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R140	VRS-TV1JD102J	J 1k	1/10W CH	AA
C147	VCCCTV1HH180J	J 18p	50V CH	AA	R141	VRS-TV1JD102J	J 1k	1/10W CH	AA
C148	VCCCTV1HH180J	J 18p	50V CH	AA	R142	VRS-TV1JD105J	J 1M	1/10W CH	AA
C149	VCCCTV1HH220J	J 22p	50V CH	AA	R143	VRS-TV1JD105J	J 1M	1/10W CH	AA
C150	VCCCTV1HH220J	J 22p	50V CH	AA	R144	VRS-TV1JD103J	J 10k	1/10W CH	AA
C151	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R145	VRS-TV1JD103J	J 10k	1/10W CH	AA
C152	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R146	VRS-TV1JD750J	J 75	1/10W CH	AA
C153	VCEAOU1CW477M	J 470	16V Electrolytic	AC	R147	VRS-TV1JD103J	J 10k	1/10W CH	AA
C154	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R148	VRS-TV1JD103J	J 10k	1/10W CH	AA
C155	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R149	VRS-TV1JD103J	J 10k	1/10W CH	AA
C156	VCEAPF1EW106M	J 10	25V Electrolytic	AB	R150	VRS-TV1JD153J	J 15k	1/10W CH	AA
C157	VCEAPF1EW106M	J 10	25V Electrolytic	AB	R151	VRS-TV1JD563J	J 56k	1/10W CH	AA
C158	VCEAPF1EW106M	J 10	25V Electrolytic	AB	R152	VRS-TV1JD821J	J 820	1/10W CH	AA
C159	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R153	VRS-TV1JD104J	J 100k	1/10W CH	AA
C160	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R154	VRS-TV1JD154J	J 150k	1/10W CH	AA
C161	VCEAPF1EW106M	J 10	25V Electrolytic	AB	R155	VRS-TV1JD103J	J 10k	1/10W CH	AA
C162	VCEAPF1EW106M	J 10	25V Electrolytic	AB	R156	VRS-TV1JD103J	J 10k	1/10W CH	AA
C163	9GHCDPE71071AC	J 100	10V Electrolytic	AF	R157	VRS-TV1JD102J	J 1k	1/10W CH	AA
C164	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R158	VRS-TV1JD471J	J 470	1/10W CH	AA
C165	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R159	VRS-TV1JD473J	J 47k	1/10W CH	AA
C166	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R160	VRS-TV1JD101J	J 100	1/10W CH	AA
C167	9GHCDPE71071AC	J 100	10V Electrolytic	AF	R161	VRS-TV1JD101J	J 100	1/10W CH	AA
C168	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R162	VRS-TV1JD222J	J 2.2k	1/10W CH	AA
C169	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R163	VRS-TV1JD103J	J 10k	1/10W CH	AA
C170	VCEAPF1CW476M	J 47	16V Electrolytic	AC	R164	VRS-TV1JD101J	J 100	1/10W CH	AA
C171	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R165	VRS-TV1JD473J	J 47k	1/10W CH	AA
C172	9GHCDPE71071AC	J 100	10V Electrolytic	AF	R166	VRS-TV1JD473J	J 47k	1/10W CH	AA
C173	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R167	VRS-TV1JD473J	J 47k	1/10W CH	AA
C174	VCEAOA1AW227M	J 220	10V Electrolytic	AB	R168	VRS-TV1JD473J	J 47k	1/10W CH	AA
C175	VCEAOA1HW476M	J 47	50V Electrolytic	AB	R169	VRS-TV1JD473J	J 47k	1/10W CH	AA
C176	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R170	VRS-TV1JD103J	J 10k	1/10W CH	AA
C178	VCEAPF1EW106M	J 10	25V Electrolytic	AB	R171	VRS-TV1JD103J	J 10k	1/10W CH	AA
C179	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R172	VRS-TV1JD103J	J 10k	1/10W CH	AA
C185	VCCCTV1HH220J	J 22p	50V CH	AA	R173	VRS-TV1JD103J	J 10k	1/10W CH	AA
C187	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R174	VRS-TV1JD103J	J 10k	1/10W CH	AA
C188	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R175	VRS-TV1JD103J	J 10k	1/10W CH	AA
C189	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R176	VRS-TV1JD271J	J 270	1/10W CH	AA
C190	VCCCTV1HH221J	J 220p	50V CH	AA	R177	VRS-TV1JD271J	J 270	1/10W CH	AA
C191	VCKYTV1HB103K	J 0.01	50V Ceramic	AA	R178	VRS-TV1JD271J	J 270	1/10W CH	AA
RESISTORS									
R102	VRS-TV1JD332J	J 3.3k	1/10W CH	AA	R179	VRS-TV1JD271J	J 270	1/10W CH	AA
R103	VRS-TV1JD182J	J 1.8k	1/10W CH	AA	R180	VRS-TV1JD271J	J 270	1/10W CH	AA
R104	VRS-TV1JD821J	J 820	1/10W CH	AA	R181	VRS-TV1JD271J	J 270	1/10W CH	AA
R105	VRS-TV1JD181J	J 180	1/10W CH	AA	R182	VRS-TV1JD271J	J 270	1/10W CH	AA
R106	VRS-TV1JD332J	J 3.3k	1/10W CH	AA	R183	VRS-TV1JD271J	J 270	1/10W CH	AA
R107	VRS-TV1JD182J	J 1.8k	1/10W CH	AA	R184	VRS-TV1JD103J	J 10k	1/10W CH	AA
R108	VRS-TV1JD681J	J 680	1/10W CH	AA	R185	VRS-TV1JD332J	J 3.3k	1/10W CH	AA
R109	VRS-TV1JD181J	J 180	1/10W CH	AA	R186	VRS-TV1JD103J	J 10k	1/10W CH	AA
R110	VRS-TV1JD102J	J 1k	1/10W CH	AA	R187	VRS-TV1JD222J	J 2.2k	1/10W CH	AA
R111	VRS-TV1JD223J	J 22k	1/10W CH	AA	R188	VRS-TV1JD101J	J 100	1/10W CH	AA
R112	VRS-TV1JD224J	J 220k	1/10W CH	AA	R189	VRS-TV1JD472J	J 4.7k	1/10W CH	AA
R114	VRS-TV1JD182J	J 1.8k	1/10W CH	AA	R190	VRS-TV1JD101J	J 100	1/10W CH	AA
R115	VRS-TV1JD102J	J 100	1/10W CH	AA	R191	VRS-TV1JD101J	J 100	1/10W CH	AA
R116	VRS-TV1JD472J	J 4.7k	1/10W CH	AA	R192	VRS-TV1JD561J	J 560	1/10W CH	AA
R117	VRS-TV1JD151J	J 150	1/10W CH	AA	R193	VRS-TV1JD681J	J 680	1/10W CH	AA
R118	VRS-TV1JD472J	J 4.7k	1/10W CH	AA	R194	VRS-TV1JD101J	J 100	1/10W CH	AA
R119	VRS-TV1JD101J	J 100	1/10W CH	AA	R195	VRS-TV1JD101J	J 100	1/10W CH	AA
R120	VRS-TV1JD102J	J 1k	1/10W CH	AA	R196	VRS-TV1JD102J	J 1k	1/10W CH	AA
R121	VRS-TV1JD102J	J 1k	1/10W CH	AA	R197	VRS-TV1JD102J	J 1k	1/10W CH	AA
R122	VRS-TX2HF240J	J 24	1/2W Metal Oxide	AB	R198	VRS-TX2HF240J	J 24	1/2W Metal Oxide	AB
R123	VRS-TV1JD103J	J 10k	1/10W CH	AA	R199	VRS-TV1JD273J	J 27k	1/10W CH	AA
R124	VRS-TV1JD101J	J 100	1/10W CH	AA	R200	VRS-TV1JD101J	J 100	1/10W CH	AA
R125	VRS-TV1JD102J	J 1k	1/10W CH	AA	R201	VRS-TQ2BD184J	J 180k	1/2W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
<b>TRANSFORMER</b>				
T101	9GHE211(TR)	J	DC-DC Transformer	BB
<b>MISCELLANEOUS PARTS</b>				
CN102	9GHKP376	J	Connector, 7 Pin	AF
CN103	9GHKP376	J	Connector, 7 Pin	AF
CN104	9GHKP377	J	Connector, 11 Pin	AF
△ F101	9GHE212	J	Fuse, 250V 630mA	AH
FF101	9GHFF261	J	SAF38.9MXB200Z SAW	AM
FF102	9GHFF262	J	SAF38.9MKC210Z SAW	AM
FH101	9GHKF015	J	Fuse Holder	AF
FH102	9GHKF015	J	Fuse Holder	AF
J101	QJAKE0151CEZZ	J	Jack, DC In	AE
J102	9GHKJ476	J	Jack, Remote In	AF
J103	9GHKJ487	J	Jack, Video/Audio Out	AG
W101	9GHWB01R30	J	Wire	AF

**9GH8A2073 FRONT UNIT(P201)**

<b>INTEGRATED CIRCUIT</b>				
IC201	9GHA278	J	IS1U60L	AR
<b>DIODES</b>				
D201	VHD1SS133//1	J	1SS133 SW Diode	AA
D202	VHD1SS133//1	J	1SS133 SW Diode	AA
D203	VHD1SS133//1	J	1SS133 SW Diode	AA
D204	VHD1SS133//1	J	1SS133 SW Diode	AA
LD201	9GHTOLB502MD	J	LB-502MD	AR
LD202	9GHTOTLO124	J	TLO124	AF
LD203	9GHTOTLO124	J	TLO124	AF
LD204	9GHTOTLO124	J	TLO124	AF
LD205	9GHTOTLO124	J	TLO124	AF
LD206	9GHTOTLG124	J	TLR124	AF
LD207	9GHTOTLG124	J	TLR124	AF
LD208	9GHTOTLG124	J	TLR124	AF
LD209	9GHTOTLG124	J	TLR124	AF
LD210	9GHTOTLSG126	J	TLSG126	AF
<b>SWITCHES</b>				
SW201	9GHSS138	J	Switch	AF
SW202	9GHSS138	J	Switch	AF
SW203	9GHSS138	J	Switch, Down	AF
SW204	9GHSS138	J	Switch, Up	AF
SW205	9GHSS138	J	Switch, Power	AF
<b>MISCELLANEOUS PARTS</b>				
CN201	9GHKJ477	J	Connector, 7 Pin	AG
CN202	9GHKJ478	J	Connector, 11 Pin	AH

**9GH8A2071 RF UNIT(P301)**

<b>TRANSFORMER</b>				
T301	VTUVTST5HZ64/	J	VTST5HZ64	BB
<b>MISCELLANEOUS PARTS</b>				
CN301	9GHKJ477	J	Connector, 7 Pin	AG
W301	9GHA489	J	RCA Cable	AN

**9GH8A2072 ANT UNIT(P401)**

<b>RESISTORS</b>				
R401	VRS-TV1JD240J	J	24 1/10W CH	AA
R402	VRS-TV1JD240J	J	24 1/10W CH	AA
R403	VRS-TV1JD240J	J	24 1/10W CH	AA
<b>MISCELLANEOUS PART</b>				
	9GHA490	J	PAL Connector Bracket	AS

Ref. No.	Part No.	★	Description	Code
<b>CABINET PARTS</b>				
1	9GH4P1653C	J	Upper Case	AT
2	9GH4P1654C	J	Bottom Case	AT
3	9GH4P1655D	J	Inner Cover	AP
4	9GH4P1656	J	Front Cover	AM
5	9GH4P1657B	J	Button A	AF
6	9GH4P1658B	J	Button B	AT
7	9GH4R0235	J	Rubber Foot	AT
8	9GH2H0561	J	Rear Identification Plate	AH
9	9GH2L1388	J	Heat Sink	AP
10	9GH6LB0296	J	Standard Identification Plate	AW
11	9GH08030060BB	J	Screw 3x6	AC
12	9GH08030060BCP	J	Screw 3x6	AC
13	9GH30030080AAP	J	Screw 3x8	AC
14	9GH30020060BBP	J	Screw 2x6	AC

**MISCELLANEOUS PARTS**

9GH2L1389	J	Shield Case	AM
9GH2N1132	J	Net A	AF
9GH2N1133	J	Net B	AF
9GH2N1134	J	Net C	AF
9GH2N1138	J	RC Clel	AF
9GH30030100AAP	J	Screw 3x10	AC

**SUPPLIED ACCESSORIES**

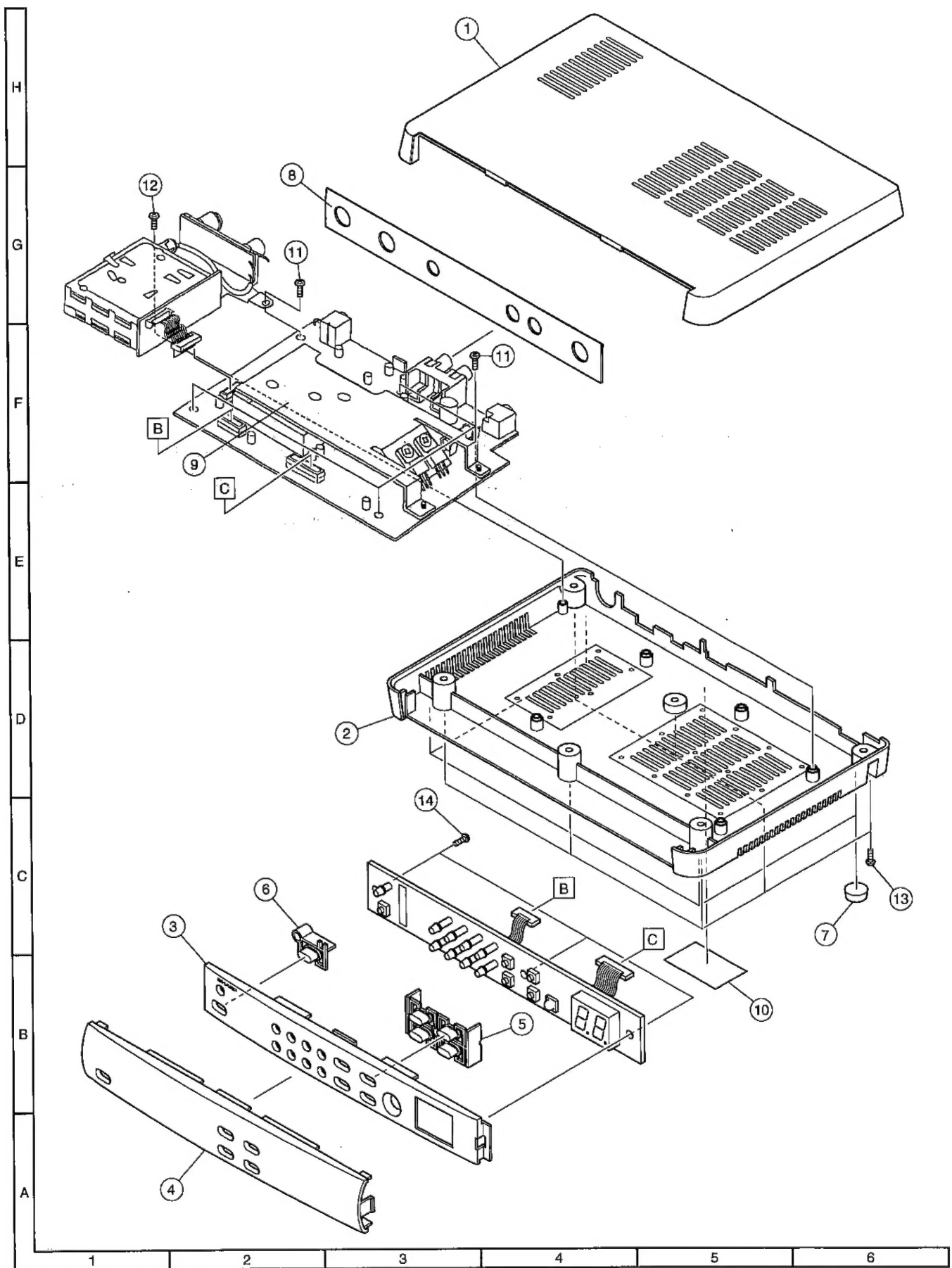
RRMCG1488CESA	J	Remote Control	AV
9GHA491	J	AV Cable	AS
9GHKP380	J	PAL(M)-F Connector	AS
9GHKP381	J	PAL(M)-F Connector	AS
TINS-6710CEZZ	J	Operation Manual (TU-M100(H)(T)(A)(M))	AL
TINS-6711CEZZ	J	Operation Manual (TU-M100(E)(K)(X))	AZ
TINS-6712CEZZ	J	Operation Manual (TU-M100(U))	AW
UADP-0187CEZZ	J	AC Adapter(TU-M100(H))	BH
UADP-0188CEZZ	J	AC Adapter(TU-M100(U))	BG
UADP-0189CEZZ	J	AC Adapter(TU-M100(E))	BH
UADP-0190CEZZ	J	AC Adapter (TU-M100(A)(K)(M)(T)(X))	BH

**PACKING PARTS  
(NOT REPLACEMENT ITEM)**

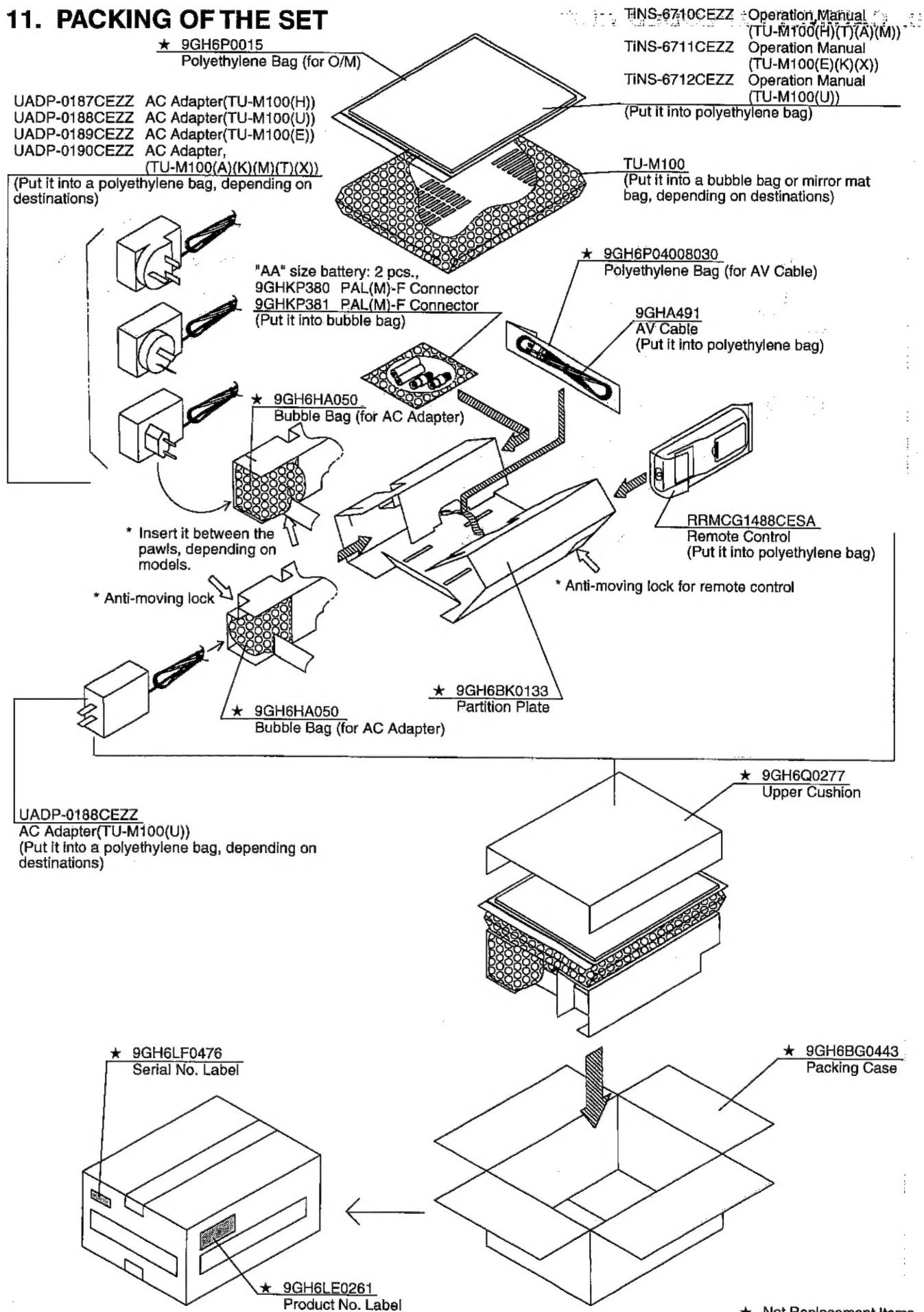
9GH6BG0443	-	Packing Case	—
9GH6BK0133	-	Partition Plate	—
9GH6HA050	-	Bubble Bag (for AC Adapter)	—
9GH6HM007	-	Wrapping Paper	—
9GH6LB0296	-	Specification Label	—
9GH6LC0063	-	Label, NOTAX (TU-M100(M))	—
9GH6LC0064	-	Label, EAN Code (TU-M100(E)(K)(X))	—
9GH6LC0065	-	Label, UPC Code (TU-M100(U))	—
9GH6LC0066	-	Label, CE Mark (TU-M100(E)(K)(X))	—
9GH6LC0068	-	Label, H Mark(M100(H))	—
9GH6LC0067	-	Label, NOM Mark (TU-M100(U))	—
9GH6LE0261	-	Product No. Label	—
9GH6LF0476	-	Serial No. Label	—
9GH6P0015	-	Polyethylene Bag (for O/M)	—

Ref.No.	Part No.	★	Description	Code
	9GH6P04008030		Polyethylene Bag (for AV Case)	—
	9GH6Q0277		Upper Cushion	—

10. CABINET EXPLODED VIEW



# 11. PACKING OF THE SET





# SHARP

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